

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A solid-state image pickup device comprising:

a multilevel wiring structure including a first group of wirings at a first level and a second group of wirings at a second level, said first level being closer to a semiconductor substrate than said second level,

a photoelectric conversion part on said semiconductor substrate, said photoelectric conversion part having a photoelectric conversion region,

a logic circuit part on said semiconductor substrate, said logic circuit part including a plurality of transistors to manipulate an electrical signal produced from said photoelectric conversion part and having a first wiring formed at said first level,

a light shielding layer covering said logic circuit part, and

a light shielding film defining a region of beam incidence on said photoelectric conversion region,

wherein said light shielding film is formed at said first level and provided at a height closer to said semiconductor substrate than said light shielding layer.

2. (original) The solid-state image pickup device as claimed in claim 1, wherein said light shielding film is located at an intermediate position between said light shielding layer and said photoelectric conversion region in the direction of beam incidence.

3. (original) The solid-state image pickup device as claimed in claim 1, wherein said light shielding film is provided so as to cover said photoelectric conversion part as well as to make the light shielding state continuous in the boundary part between said photoelectric conversion part and said logic circuit part.

4. (original) The solid-state image pickup device as claimed in claim 3 wherein said light shielding film and light shielding layer are connected in such a manner to make the light shielding state continuous in said boundary part.

5. (original) The solid-state image pickup device as claimed in claim 3, wherein said light shielding film and said light shielding layer have an overlapping part that can be overlapped in the plan view so as to make the light shielding state continuous in said boundary part.

6. (original) The solid-state image pickup device as claimed in claim 1, wherein said light shielding film covers said photoelectric conversion part by combining a plurality of layers.

7. (original) The solid-state image pickup device as claimed in claim 1, wherein said light shielding film defines the region of beam incidence on said photoelectric conversion region by combining a plurality of layers.

8. (previously presented) The solid-state image pickup device as claimed in claim 6, wherein a plurality of light shielding films are provided so as to make the light shielding state continuous in their boundary parts.

9. (previously presented) The solid-state image pickup device as claimed in claim 8, wherein each of said plurality of light shielding films has an overlapping part that can be overlapped in the plan view so as to make a light shielding state continuous in their boundary parts.

10. (previously presented) The solid-state image pickup device as claimed in claim 6, wherein a plurality of light shielding films possess a portion having a boundary part with said light shielding layer and a portion that defines the region of beam incidence on said photoelectric conversion region provided at a position closer to said semiconductor substrate.

11. (previously presented) The solid-state image pickup device as claimed in claim 1, wherein said light shielding layer is formed of a material that has either low light transparency or

high light absorbency such that its light shielding property is high.

12. (original) The solid-state image pickup device as claimed in claim 1, wherein said light shielding film is manufactured in the same process as the manufacturing process of the logic circuit part.

13. (previously presented) A solid-state image pickup device comprising:

a multilevel wiring structure formed on a semiconductor substrate;

first and second levels of a wiring layer provided in said multilevel wiring structure, said first level being closer to said semiconductor substrate than said second level;

a photoelectric conversion part converting incident light to an electrical charge and further converting said electrical charge into an electrical signal;

a logic circuit part receiving and handling said electrical signal and having a first wiring formed at said first level,

said photoelectric conversion part and said logic circuit part being on said semiconductor substrate;

a light shielding layer covering the logic circuit part; and

a light shielding film covering said photoelectric conversion part,

wherein said light shielding film is formed at said first level and provided at a height closer to said semiconductor substrate than said light shielding layer.

14. (previously presented) The device as claimed in claim 13, wherein said solid-state image pickup device is a CMOS sensor.

15. (currently amended) A solid-state image pickup device comprising:

- a multilevel wiring structure on a semiconductor substrate;

- first and second levels of a wiring layer provided in said multilevel wiring structure, said first level being closer to said semiconductor substrate than said second level;

- an image sensor part producing an analog signal in response to light incident to said image sensor part;

- a first circuit part producing a digital signal in response to said analog signal;

- a second circuit part performing a signal processing operation on said digital signal,

- said image sensor part and said first and second circuit parts being formed on said semiconductor substrate;

- a first wiring provided in at least one of said first and second circuit parts;

- a first light shielding layer covering said image sensor part; and

a second light shielding layer covering said first and second circuit parts, wherein,

said first light shielding layer is provided closer to said semiconductor substrate than said second light shielding layer, and

said first wiring and said first light shielding film are provided in said first level.

16. (currently amended) The device as claimed in claim 15, wherein said image sensor ~~signal~~ part includes a photoelectric conversion region generating an electrical charge in response to said light and a transistor circuit producing said analog signal in response to said electrical charge.

17. (previously presented) The solid-state image pickup device according to claim 1, further comprising a second wiring provided in said photoelectric conversion part, wherein said second wiring and said light shielding layer are provided in said second level.

18. (previously presented) The solid-state image pickup device according to claim 13, further comprising a second wiring provided in said photoelectric conversion part, wherein said second wiring and said light shielding layer are provided in said second level.

19. (currently amended) The solid-state image pickup device according to claim 15, further comprising a second wiring

provided in said image sensor part, wherein said second wiring and said light shielding layer are provided in said second level.

20. (new) The solid-state image pickup device according to claim 1, wherein said light shielding film is made of metal.

21. (new) The solid-state image pickup device according to claim 13, wherein said light shielding film is made of metal.

22. (new) The solid-state image pickup device according to claim 15, wherein first light shielding layer is made of metal.

23. (new) The solid-state image pickup device according to claim 20, wherein said light shielding film and said first group of wirings are made of same metal.

24. (new) The solid-state image pickup device according to claim 21, wherein said light shielding film and said first group of said wiring are made of same metal.

25. (new) The solid-state image pickup device according to claim 22, wherein said first light shielding layer and said first wiring are made of same metal.